

REMARKS/ARGUMENTS

By this Amendment, claims 1 and 10 are amended and claim 17 is added. Claims 1-17 are pending.

Support for the amendment of claims 1 and 10 and the addition of new claim 17 can be found in the specification on page 7, lines 26-33 and page 11, lines 5-22 demonstrating that the addition of surfactant nullified or dramatically decreased the hydrophobicity effect needed for obtaining the desired echogenic enhancement and that the Applicants were in possession of an embodiment directed to “no surfactant” used in the microparticle at the time of filing the application stating that microparticles of varying hydrophobicities (e.g., starch, talc, and polyethylene) were used alone or in the presence of a surfactant (see page 7, lines 26-33).

Further, support for amendment of claim 10 with respect to a targeting moiety and a drug can be found on page 7, lines 21-22 and page 8, lines 30-35.

The Examiner's courtesy in granting a telephonic interview to Applicants' representative Marina Volin on August 20, 2007 is gratefully acknowledged. Applicants' separate record of the substance of the interview is incorporated into the following remarks.

International Application Publication WO 00/72757 is relied upon for reference.

Favorable reconsideration is respectfully requested in view of the foregoing amendments and the following remarks.

Claim Rejections -35USC 102

Rasor US 5, 141,738 (Rasor, thereafter)

Claims 1-7 and 10-14 stand rejected under 102(b) as anticipated by Rasor. This rejection is respectfully traversed.

To anticipate a claim, the reference must teach every element of the claim. MPEP §2131.

As the Examiner pointed out on page 6 of the Office Action, "it is the microparticles which stabilize the gas bubbles of Rasor that contain the surfactant and not the microbubbles themselves which reads on the limitations of the claim." Rasor discloses making microparticles comprising 0.01-5 wt.% lipophilic surfactant, e.g., C₈-C₂₀ fatty acid, and a non-surfactant, e.g., solid saccharide; see col.7, lines 20-25, col. 9, lines 57-68, col. 10, lines 1-10 and claim 1.

Amendments to claims 1 and 10 obviate the rejection by clarifying that Applicants meant to exclude surfactant not only from a gas microbubble but also from a microparticle (as was previously indicated by the wording of the preamble).

The Rasor reference does not identically disclose each and every element recited in the claims because it does not disclose utilizing microparticles formed without a surfactant (as in base claims 1 and 17) or an echogenic surface formed without a surfactant (as in base claim 10). Rasor requires the presence of a surfactant in contradiction to the amended base claims 1, 10, and the new base claim 17. Therefore, Rasor fails to anticipate base claims 1, 10, and 17 as well as claims dependent from claims 1 and 10, i.e., claims 2-7 and 11-14, respectively.

Schneider US 5,271,928 (Schneider, thereafter)

Claims 1-7 and 9-14 stand rejected under 102(b) as anticipated by Schneider. This rejection is respectfully traversed.

To address the lack of clarity pointed out by the Examiner on page 7, lines 7-9 stating

that “the surfactants used in Schneider are used in the liposomes which are used to stabilize the gas bubbles which do not contain surfactant”, Applicants amended base claims 1 and 10. As stated above, current amendments make it clear that Applicants meant to exclude surfactant not only from a gas microbubble but also from a microparticle. Hence, amendments to claims 1 and 10 obviate the rejection by clarifying that a surfactant is excluded not only from a gas microbubble but also from a microparticle. The Schneider reference fails to anticipate base claims 1 and 10 because it does not disclose utilizing microparticles formed without a surfactant (as in base claims 1 and 17) or an echogenic surface formed without a surfactant (as in base claim 10).

Schneider teaches stabilizing microbubble suspensions with help of surfactants; the term “surfactants” is used to include various lipids (see abstract, col. 3, lines 60-68 continuing in col. 4, lines 1-5, col. 6, lines 42-6, and col. 7, lines 16-24). Applicants specifically exclude using surfactants from (a) a microparticle having a hydrophobic surface or an affinity for a specific gas and (b) a gas microbubble as in amended claim 1. Similarly, surfactants are excluded from the amended claim 10, which is directed to an echogenic surface consisting of a coating with a hydrophobic surface or a surface with an affinity for a specific gas and gas bubbles formed in water, a buffer, or blood without surfactant which attach to or encapsulate the object to be ultrasonically detected and optionally, a targeting moiety and a drug attached to said echogenic surface and wherein said echogenic surface is formed without said surfactant.

Clearly, Schneider requires the presence of surfactant in contrast to amended base claims 1, 10 and the new base claim 17 which exclude surfactant, therefore, this reference fails to

anticipate base claims 1, 10, and the new base claim 17, as well as claims dependent from claims 1 and 10, i.e., claims 2-7 and 11-14 respectively.

Claim Rejections -35USC 103

Claims 1-16 stand rejected over Rasor or Schneider in view of Unger (US 5,542,935) (Unger, thereafter). Unger is relied upon for the disclosure of usefulness in imaging and drug delivery. This rejection is respectfully traversed.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion of motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP § 2143. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

As described above both Rasor and Schneider do not disclose all limitations of amended base claims 1 and 10. Unger does not cure this deficiency as it is directed to gas filled liposomes.

Moreover, Rasor and Schneider are teaching away from the present invention by requiring the presence of surfactant. On page 11 of the specification, Applicants have shown that in the presence of surfactant, the effect of surface hydrophobicity is nullified, which leads to dramatic decrease in enhancement of acoustic properties. Clearly, a person skilled in the art

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would not be motivated to modify the Rasor and Schneider references, i.e., to omit the surfactant to yield the present invention.

Thus, amended base claims 1 and 10 as well as new claim 17 are not obvious in view of Rasor or Schneider as combined with Unger. Dependent claims 2-9, and 15 and 11-14, and 16 would not be obvious for at least the reasons claims 1 and 10 are not obvious.

For at least the reasons set forth above, it is respectfully submitted that the above-identified application is in condition for allowance. Favorable reconsideration and prompt allowance of the claims are respectfully requested.

Should the Examiner believe that anything further is desirable in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,

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